

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
8 April 2004 (08.04.2004)

PCT

(10) International Publication Number
WO 2004/028728 A1

(51) International Patent Classification⁷: **B23B 47/34, B23Q 11/02, 11/00, B23D 59/00**

(74) Agent: ALBIHNS STOCKHOLM AB; P.O. Box 5581, Linnégatan 2, S-114 85 STOCKHOLM (SE).

(21) International Application Number:
PCT/SE2003/001500

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:
26 September 2003 (26.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/319,579 27 September 2002 (27.09.2002) US
60/414,408 30 September 2002 (30.09.2002) US

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

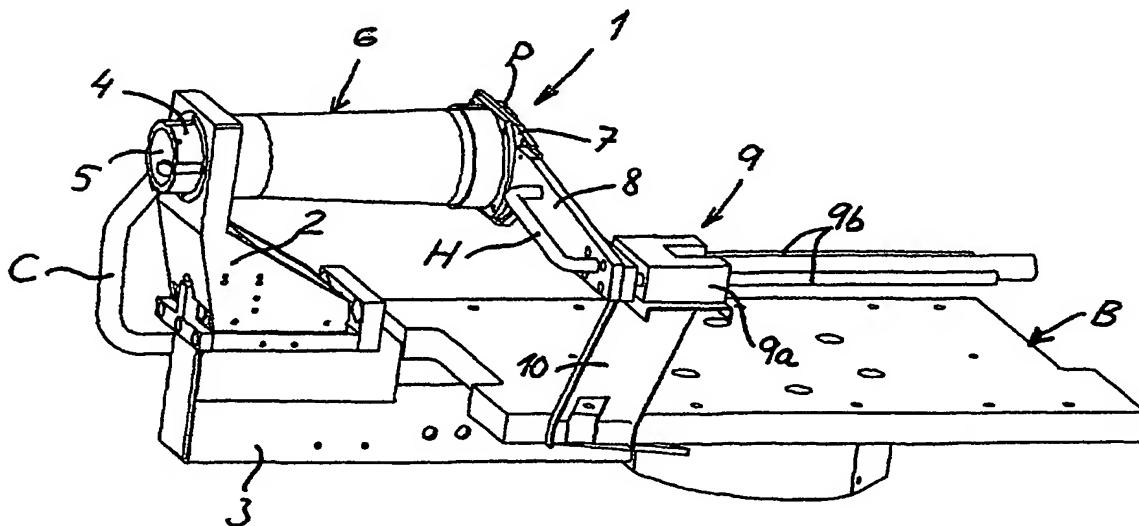
(71) Applicant (*for all designated States except US*): NOVATOR AB [SE/SE]; Stormbyvägen 6, S-163 55 SPÅNGA (SE).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AN ASSEMBLY FOR REMOVING CHIPS FROM A CUTTING WORK AREA OF A CUTTING TOOL



WO 2004/028728 A1

(57) Abstract: An assembly for removing chips from a cutting tool working area on a workpiece, comprising: a support structure (16) for supporting a first end of an axially expandable and collapsible tubular member (46); a cross-piece (34) for supporting a second end of the tubular member (46); at least one biasing spring (30, 32) configured and arranged for resiliently biasing the support structure (16) and the cross-piece (34) away from one another; a housing (36) with a chips-receiving chamber (38) located adjacent one of said ends of the tubular member (46) for engagement with the working area of the workpiece, an outlet (40, 44) from the chamber (38) of the housing being configured to be connected to a vacuum source for removing chips from the chamber; and a hub portion (22) located at the other of said ends of the tubular member for engagement with a cutting machine.